Secret

International Oil Developments

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INTERNATIONAL OIL DEVELOPMENTS

CURRENT OVERVIEW

OPEC production in February was about the same as in January, with some producers such as Saudi Arabia upping output and others such as Iraq cutting back. Barring a break in the Arab oil embargo, this is likely to be the pattern for March as well. Even in the face of relatively stable supply, there is a downward pressure on prices because a variety of factors continue to depress demand. If these demand constraints continue -- as seems to us likely -- a sudden increase in Arab production would clearly lead to an almost equally sudden decrease in prices for the bulk of oil that moves in world trade.

Iraq is relenting -- but only slightly -- on its pricing policy. Although Baghdad is standing firm on its $17 a barrel asking price to the Soviets, it reportedly has reduced this price by $2 to a Greek purchaser. There are other reports that Iraqi oil was offered to Tunisia for $14 a barrel and sold to Morocco for $13.41. Iraq is also shaving its price on longer term deals with Brazil and Spain. Only relatively small amounts of oil are involved in these offers, and Baghdad seems content at present to hold back production rather than sell large amounts of oil at what it considers inadequate prices.

The downward pressure on crude oil prices is also being felt elsewhere in the Persian Gulf. Having observed the low offers received in Kuwait's two-round auction, Abu Dhabi and Qatar apparently decided to postpone their auction sales originally scheduled for this week. It is doubtful that these countries will be able to sell much of the 318,000 b/d that they are offering at prices they consider acceptable.

The problem of weakening prices will be discussed at the 11 March meeting of the OPEC Economic Committee to be held in Vienna. The agenda calls for the determination of the next quarter's posted prices, taking into consideration world inflation and the effects of currency variations on OPEC revenues. However, it is probable that the real discussion will center on what price can be maintained rather than on what price is just from the standpoint of inflation and currency changes. The meeting will

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Note: Comments and queries regarding this publication are welcomed. They may be directed to [redacted] of the Office of Economic Research, [redacted]

also discuss the establishment of a financial facility to aid LDCs and evaluate a variety of technical studies submitted by consultants.

The problem of prices will also be on the minds of the Arab oil ministers at an OAPEC meeting to be held soon – probably in Cairo on 10 March. The meeting is to discuss the lifting of the embargo and an increase in production. Increasing Arab production to the September 1973 level – a boost of some 2.5 million b/d – would further increase the downward pressure on prices. It is doubtful if many OAPEC states – with the important exceptions of Saudi Arabia and Egypt – would welcome such an increase. Nevertheless, a lifting of the embargo without a rise in production would be meaningless and would not win the Arabs any credit with the consuming states. A hard decision will have to be made.

The current situation in which the excess of supply over demand is steadily increasing will be a severe test for OPEC. Today's high crude oil prices cannot be maintained unless substantial production cuts are made. There are good political and economic reasons why some OPEC members may resist making such cuts. The next few months – and possibly the next few weeks – will show whether OPEC is willing and able to act as a cartel. (SECRET/[redacted]) ■

THE FUTURE OF OPEC AS A CARTEL

OPEC* is often described as a producers' cartel, and, although it has occasionally threatened to act as one, it has not yet been put to the test.

The group has never been forced to act in the traditional manner of a cartel by cutting production in order to raise or maintain prices. At most, it took advantage of the politically motivated Arab oil cutback. Thus, whether OPEC could or would act as a traditional cartel is still an open question. The answer to this question lies in the political and economic situation of each individual OPEC member. In some cases, the personalities of leaders and the traditions and national character of the country involved are also important.

The political imperatives that operate in these countries cannot be overlooked. No OPEC political leader can afford to appear to accept the dictates of Europe or the United States. This is especially true in the more democratic countries such as Venezuela, Kuwait, and Ecuador, where the appearance of "knuckling under to the imperialists" would create a domestic political situation very harmful to the party or person in power. The more autocratic rulers have less to fear from domestic rivals, but they have their international prestige to maintain. The Shah, for example, has identified himself so closely with the latest price hikes that any reduction in these prices would result in considerable loss of face. Moreover, all of the OPEC leaders have a high regard for OPEC itself; none would willingly put himself in a position where he alone would be accused of trying to "break OPEC."

Few OPEC leaders would risk serious domestic or international political problems for the sake of long-term economic gains. The horizons of most OPEC leaders – Saudi Arabia's King Faysal appears to be an exception – are limited to their lifetimes or their tenures in office. Immediate domestic or international popularity is more important than nebulous benefits to future generations. Only if the welfare of future generations is a popular present-day issue – as it is in Venezuela, for example – would long-term economic arguments have much force.

On the other side of the international political coin, the OPEC leaders are sensitive to accusations that they are enriching themselves at the expense of their oilless Third World brothers. Some leaders foresee a situation wherein they will be isolated from both the Third World and from their traditional Western friends. King Faysal, for one, is also troubled by the

* The members of the Organization of Petroleum Exporting Countries are Algeria, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.

possibility of an oil-induced world recession that could affect the producing countries. Fears of isolation are partly responsible for the various schemes for channeling funds toward the Third World, Iran's pledge of funds for the IMF, Libya's proposed three-tier price system, and Saudi Arabia's advocacy of lower prices.

We have seen no indications of an OPEC consensus that high oil prices will encourage the substitution of other fuels to the eventual detriment of the producer nations. The OPEC leaders' belief that there will always be an adequate market for oil at a high price as a petrochemical feedstock even if not as a fuel is apparently sincere. Furthermore, they believe that the price of oil substitutes is and will remain greater than the price of most OPEC oil and that each developed country will be reluctant to put itself at a disadvantage relative to others by relying too greatly on high-priced oil substitutes. These beliefs could change as the result of observed consumer country cooperation, technical breakthroughs, or rapid oil and gas development in non-OPEC areas.

In sum, we do not see any near-term groundswell building that would result in an OPEC consensus that the baseline prices agreed to last December are too high or unsustainable. Arguments and estimates that the present situation will result in depressions in the developed world and disasters in the developing world will fall mostly on deaf ears. The OPEC countries' collective inclination is to wait and see while considering many and implementing some schemes to recycle a portion of their burgeoning revenues to the Third World.

However, an OPEC consensus that prices are too high is not an essential prerequisite to a general price rollback. The present OPEC prices were not set by a consensus arrived at through analysis of alternative prices. The Persian Gulf price was ramrodded through by the Shah against Saudi opposition; the other OPEC members later raised their prices to comparable levels.

Three countries – Venezuela, Iran, and Saudi Arabia – aspire to leadership roles in OPEC, and of the three only the Saudis have the ability and inclination to lower prices. In both Venezuela and Iran the leadership can see the time – within two decades – when their oil production will drop drastically and the economic future of their countries will have to depend on other factors. Given this time frame, a policy of maximizing revenues now with little concern for the role of oil in the world economy in the next century is attractive. The idea that technology coupled with government policies in the major consuming nations may well relegate OPEC oil to a minor role in the energy equation at the turn of the century is of no great importance.

For the Saudis, however, the value of oil in the marketplace several generations hence is an important factor in their current thinking. They see themselves producing enormous quantities of oil well into the middle of the next century and very likely substantially beyond. Thus their appreciation of the impact of present policies and prices on the real value of their oil 25, 50, and 100 years hence has considerable weight.

In any event, OPEC will soon have to face its first cartel decision -- perhaps as early as the meeting set for mid-March. We estimate that supply is already slightly in excess of demand and that planned increases in OPEC output will make the present price structure unsustainable. Within the next few months, either production or prices must fall. Any OPEC decision to hold prices at present levels would require active Saudi cooperation to be successful because of the size of the cuts required. According to our estimates, price resistance and conservation measures in consuming countries and projected production increases would create a potential surplus of at least 4 million b/d and perhaps as much as 7 million b/d by the end of the year if prices remain at current levels.

We doubt that the Saudis have carefully sorted out the implications of the forces already set in train by the embargo, the cutbacks last September, and the record price hikes in January. It is clear, however, that they feel uncomfortable on both counts. Beyond these constraints the Saudis have an additional reason not to join in an OPEC cutback scheme to maintain present price levels. The expected Saudi response to the successful conclusion of Secretary Kissinger's current diplomatic effort is an end to the embargo and some increase in output. We believe that it would be exceedingly difficult and probably impossible for King Faysal to appear to go back on these implied promises by cutting output not too long after having increased it.

There is a point, however, below which the Saudis would not like to see prices fall. This price could be based on the $5 a barrel government revenue figure that Shaykh Yamani proposed in the December OPEC meeting. It could also be a compromise price somewhere between that price and the current price. In such a situation, we believe that most OPEC countries would be willing to make at least token production cuts in order to maintain prices. However, only Saudi Arabia, Kuwait, the United Arab Emirates, Libya, Venezuela, and possibly Iraq would be willing to make cuts of the required size. (~~SECRET~~) ■

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UNITED STATES MAY JOIN IN DEVELOPING SOVIET OFFSHORE OIL

Several US firms have joined Japanese firms in negotiating with Moscow over the development of oil and gas deposits off Sakhalin Island. Both the USSR and Japan have sought US participation to gain access to the latest technology and to US capital. Soviet sources estimate potential offshore oil reserves at 30 billion to 45 billion barrels of low-sulfur oil in a 39,000-square-mile area.

Current Status of Negotiations with US Firms

As a followup to earlier Japanese-Soviet discussions, Gulf Oil signed a preliminary agreement in July 1972 for a cooperative development venture with Japan. Gulf insisted on a production-sharing contract. Instead the Soviets proposed that (a) the Gulf-Japanese combine invest the risk capital without recompense if no oil is developed; (b) the USSR purchase the equipment used in exploration, and (c) Gulf-Japanese risk capital be paid back from production if oil is developed, and the Western partners be given preferential prices in buying additional oil. Negotiations are to be resumed in March in Moscow.

In Moscow last January, Arco Petroleum representatives offered to explore and develop the Sakhalin area. Arco officials state that investment during a four-to-five-year period could total $2.5 billion if production reaches 500,000 b/d. Arco wants an option on 50% of production after recoupment, believing that recoupment could be accomplished in five years. The Soviets have countered by offering Arco a long-term purchase agreement.

Occidental and a number of other major US oil firms have held discussions with the USSR about offshore oil developments. No details are available.

Problem Areas

Before Sakhalin development can proceed, three problem areas must be dealt with.

- **Reserves** -- Aside from sketchy Soviet geological surveys, almost nothing is known about the potential of the Sakhalin offshore deposits. At least two years will be needed to explore the area; production, if justified, could not begin much before 1980.

- **Equipment** -- The most advanced US equipment would be needed in this difficult area of severe tides and massive

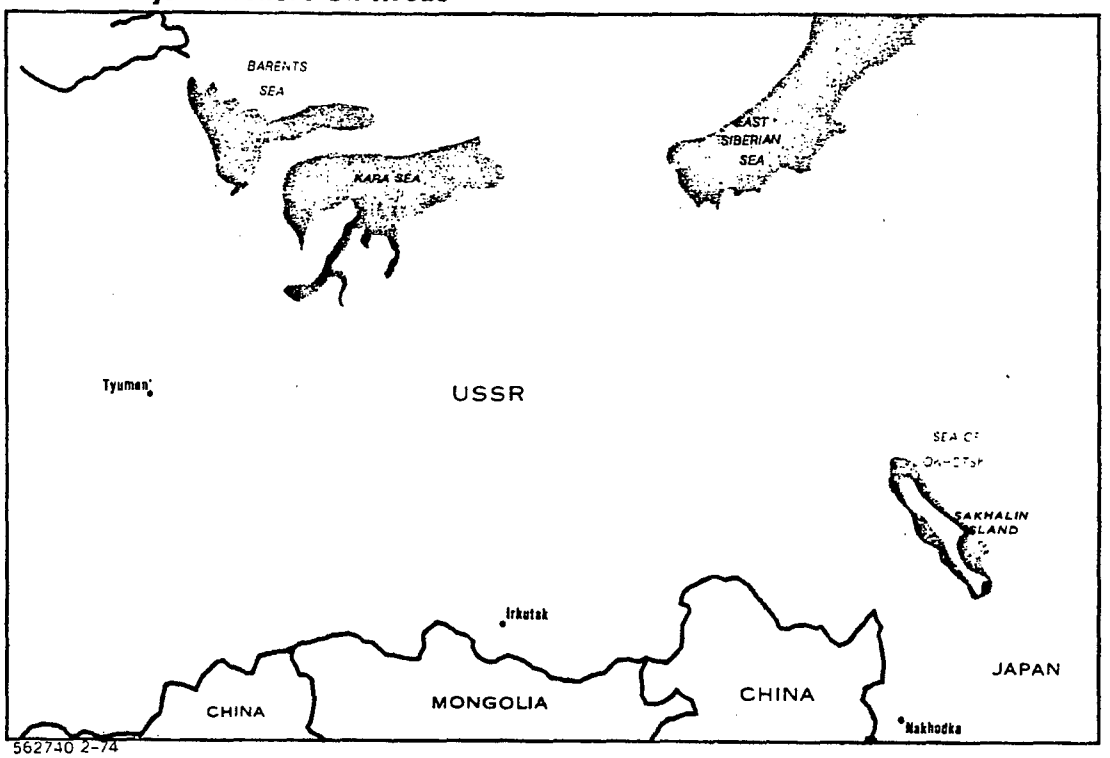
iceflows. But Sakhalin development would face fierce competition from other areas of potential offshore development, for drilling platforms and other equipment are in short supply.

- Money -- If a substantial field is discovered, massive financing would be required. Commercial credits might be difficult to muster without Eximbank participation, since the Soviets probably will press for concessionary interest rates. The Japanese-Gulf group is expected to offer low interest rates because of access to Tokyo's financial guarantees.

Prospects

The Gulf-Japanese proposal seems most likely to be the first accepted, possibly this year. It furnishes necessary US technology and provides low-interest financing that avoids hard currency outlays. Agreement on a Gulf-Japanese project would not preclude other US firms from negotiating similar joint projects off Sakhalin.

USSR: Major Offshore Oil Areas



If the Sakhalin offshore fields prove out, the USSR will have a new source of hard currency earnings and a substantial increase in oil production. According to the Arco projections, production would amount to 182.5 million barrels a year by 1980, worth $1.3 billion (assuming a price of $7.00 per barrel). After repaying investment costs and giving its Western partners a share of the oil, the USSR, under these conditions, could realize $1 billion annually in hard currency from the Sakhalin development. (CONFIDENTIAL)■

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JAPAN: OIL PRICE FREEZE

Major oil companies are threatening to cut crude oil deliveries unless Tokyo allows a substantial increase in domestic product prices. Exxon informed Tokyo that product sales in March by its local subsidiary would be 15% below earlier projections unless prices are permitted to rise. The refineries are seeking a 90% increase in product prices, which have been frozen since December. Because of the rise in crude oil costs, the oil industry is claiming substantial operating deficits.

Prime Minister Tanaka, backed by the Finance Ministry, wants to postpone lifting the price freeze until April. Tokyo wants to avoid any surge in domestic prices that would tend to strengthen demands by labor during the current round of wage negotiations. As an alternative, Tokyo is considering temporary tax relief to the petroleum industry to help offset any losses during the price freeze. Getting any tax relief measures implemented quickly, however, will be difficult because the oil industry is already facing strong criticism in the Diet and from the public at large for what many Japanese view as excessive price hikes before the freeze was implemented. Failure to act quickly could result in a substantial decline in oil deliveries fairly soon. Indeed, small independent firms have reported reduced crude deliveries in February because of the price freeze. (SECRET OFFICIAL USE ONLY)■

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NETHERLANDS' CRUDE OIL IMPORTS INCREASE

Dutch crude oil imports reached 1.4 million b/d in February – up 200,000 b/d from January. February imports were one-third below pre-embargo levels of 2 million b/d. Dutch domestic oil consumption was 800,000 b/d before the crisis; the remaining 1.2 million b/d were re-exported. While imports of Nigerian and Iranian oil have grown in recent months, imports from Arab countries have been insignificant since the embargo.

Crude Oil Imports

Thousand b/d

	Oct 1973	Jan 1974 (Est.)	Feb 1974 (Est.)
Total	2,050	1,170	1,358
Saudi Arabia	690	82	155
Kuwait	380	2	109
Other Arab	310	....	....
Nigeria	220	311	536
Iran	440	775	541
Venezuela	10	....	17

Increased supplies and reduced demand have enabled the Netherlands to maintain high stock levels and ease conservation measures. In February the three-week-old gasoline rationing program was dropped. (SECRET/[redacted])

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FRENCH CHOOSE NUCLEAR ENERGY AS BEST SUBSTITUTE FOR OIL

An accelerated program of nuclear energy development to reduce French dependence on Middle East oil has been approved by the new French cabinet. The program, financed by higher fuel taxes, is designed to freeze oil consumption at current levels.

Growing investment in nuclear energy is expected to boost the share of France's electricity generated at nuclear plants from 9% in 1972 to 32% in 1980 and about 70% in 1985. Nuclear plants will account for the entire increase in electrical generating capacity after 1975. By 1980, 19 additional reactors with a capacity of 18,000 megawatts are expected to be completed at a cost of more than $5 billion. This additional capacity will save Paris about 630,000 b/d of oil.

France is in a good position to carry out a nuclear energy program. The French nuclear industry is capable of producing six to seven reactors per year. Paris will also have adequate domestic uranium enrichment capacity if the Eurodif enrichment project continues on schedule. More than 500,000 tons of uranium ore are recoverable domestically at a price of less than $10 a pound, while substantial additional ore is available at preferential prices elsewhere.

It is unlikely that France could get an equivalent saving of oil in electrical generation through accelerated hydroelectric development, increased reliance on coal, or increased exploitation of less conventional energy sources. France's hydroelectric potential is now almost fully harnessed, and few additional sites could be developed even at substantially higher costs per kilowatt hour than for nuclear power. A large-scale revival in coal production is similarly unlikely because France's coal reserves are low and production costs high. Any substantial increase in coal output would require a doubling of the coal price and large pay increases to attract the necessary miners. Paris has done considerable work on less conventional energy sources, but these are unlikely to make a significant contribution in the next decade. (CONFIDENTIAL)■

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NORWAY TO DEBATE CONSERVATION AND STATE CONTROL OVER NORTH SEA OIL

A Norwegian "white paper" – intended to form the basis of a broad debate on oil policy this spring – advocates steps to broaden government control over offshore resources. The study proposes that private companies gradually be restricted to the role of consultants, contractors, or possibly minority partners in future North Sea oil operations. Debate over this recommendation will be fierce. The oil companies strongly oppose it, and the Secretary General of the Conservative Party has called the report a challenge to the non-socialist majority of the population.

The study also proposes:

- A moderate rate of oil and gas exploitation to conserve resources and minimize adverse social and economic effects.
- A moratorium on granting new concessions south of the 62nd parallel.
- Public control, through the state oil company, of all important aspects of oil operations.
- Establishment of a general rule that Norwegian oil and gas be landed in Norway.
- Establishment of a fully Norwegian marketing organization.
- Expansion of Norway's refinery capacity.

Current Norwegian oil production is 40,000 b/d, and proved reserves amount to 3.3 billion barrels. Norway expects to increase production to 100,000 b/d this year. Additional discoveries could raise production to 1 million b/d by 1980 – six times current domestic consumption. Natural gas production is expected to begin in 1976 at 1 billion cubic feet per day (cf/d) and rise to more than 4 billion cf/d by 1980. (UNCLASSIFIED)

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JAPAN'S DEMAND FOR OIL IN 1974

Japan's demand for oil probably will remain at about last year's level despite an expected growth in economic activity. Imports could increase somewhat over 1973 levels, however, if stocks are rebuilt to pre-crisis standards.

Industry accounts for much of the growth in Japanese oil consumption. Our analysis shows that on average during 1969-73 a 1% change in industrial production was accompanied by a 1.2% change in oil consumption. In 1974, we expect industrial output to increase about 5%. Thus, if past relationships hold, oil consumption would increase to around 5.6 million b/d.

This more or less normal increase in consumption will be offset by other factors, however. Tokyo's mandatory conservation program already has slowed consumption growth. Aimed primarily at industry, the program calls for cutbacks in oil and electric power consumption of 10% from planned levels. Industries apparently have been able to use oil more efficiently and make the required cutbacks without restricting output. Indications are that first quarter savings will total about 200,000 b/d.

Mandatory conservation measures are likely to be abandoned by mid-year, but higher prices should continue to constrain consumption. Refiners reportedly have requested a 90% increase in average wholesale prices for products – frozen since early December – and the government is considering an increase of about 60%-70%. Such large price increases will encourage continued conservation by industry, and other sectors of the economy probably will follow suit.

Higher oil prices also will encourage at least some substitution of coal for oil. Part of the increase in oil consumption over the past several years has been the direct result of a shift away from coal. In the electric power industry, this accounts for about 50% of the increase in oil consumption. The Japanese are now planning to reverse the downward trend in domestic coal production and to increase coal output this year by as much as 500,000 tons. (CONFIDENTIAL)■

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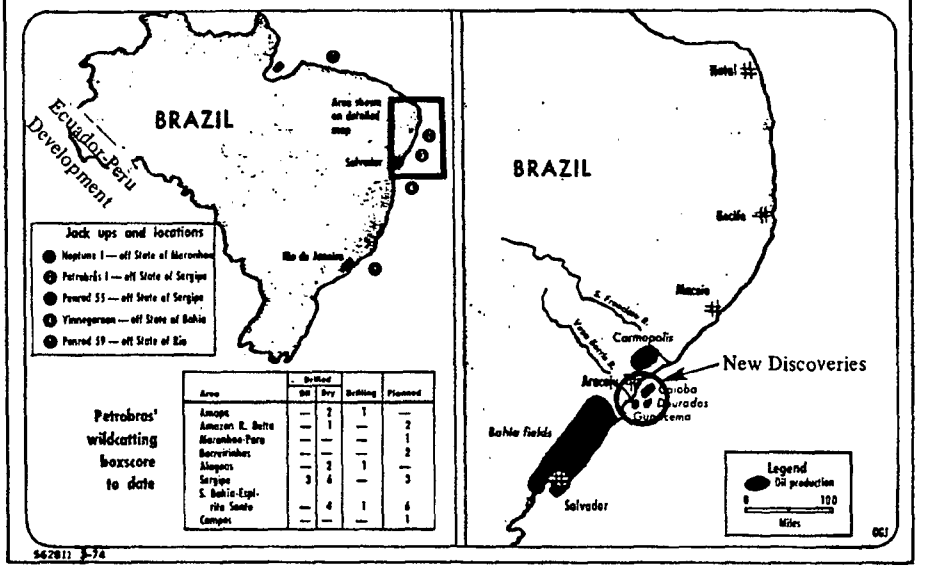
BRAZIL: HIGH PRICES SPUR OIL DEVELOPMENT

High oil prices are spurring the development of Brazil's domestic petroleum resources.

The potential for raising domestic oil production in the short term is limited; output from existing wells – about 170,000 b/d – cannot be increased greatly. In the longer run, higher prices will stimulate development of old fields, further exploration of offshore sediments and of Acre Province in the Upper Amazon Basin, and exploitation of oil shale.

Petrobras, the state-owned firm, has an exploration budget of $165 million in 1974, up from $120 million last year. Petrobras has reported that offshore studies indicate a great amount of Cretaceous-Tertiary sediments and many structures for the trapping of oil accumulations. Exploratory drilling has yielded valuable information and has indicated the presence of substantial oil reserves. Promising offshore discoveries have been made in Bahia offshore waters. In 1974, Petrobras will take delivery on three new offshore drilling rigs to augment the 14 now working on the Brazilian shelf.

Where the action is off Brazil



Petrobras estimates the proved reserves of the offshore continental shelf at only 20 million barrels; ultimate recoverable offshore oil reserves were estimated at 370 million barrels by Shell Oil in a recent UN study. All of these reserves are within 40 nautical miles of the shoreline and are located

in less than 620 feet of water. Brazil's total proved reserves for both onshore and offshore fields were calculated at about 800 million barrels of oil and more than 900 billion cubic feet of gas at the end of 1973. More than 600 million barrels of oil reserves are concentrated in the Bahia area and more than 100 million in the Alagoas-Sergipe areas on Brazil's east coast.

Brazil may also share in the rapidly growing Ecuador-Peru-Amazon Basin oil development, east of the Andes. Oil exploration in the Acre region of Brazil was resumed in late 1971 after a 7-year lapse as a result of Peruvian discoveries and development. In April, Peru will begin to ship 5,000 b/d of crude oil down the Amazon River, and the volume of such shipments will increase until a Trans-Andean crude oil pipeline is constructed to Pacific Coast refining and port facilities.

Brazil is also stepping up research on its oil shale deposits, estimated by the government to contain 700 billion barrels of petroleum. The major shale deposit, the Irati formation, is now being investigated by means of a pilot plant producing 1,000 b/d. Large-scale production of shale oil is highly unlikely before the 1980s. (UNCLASSIFIED)■

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LIBYA REMAINS COMMITTED TO BARTER ARRANGEMENTS

Unlike some other major oil producers, Libya continues to show strong interest in barter deals.

In recent months, Tripoli has concluded new barter agreements with France and Italy as well as Yugoslavia, Poland, Czechoslovakia, and Hungary. Negotiations with West Germany reportedly also have led to an accord. In addition, previously established arrangments with Romania and Bulgaria have been renewed.

Libya's interest in barter sales predates the October war. Disillusionment with cash sales stemmed initially from the loss in value of foreign reserves resulting from the US dollar devaluation. Subsequently, nationalization of the BP/Bunker Hunt oil concessions and legal pursuit of the "hot" nationalized oil by the former operators spurred a search for barter deals. The search accelerated last summer, following Tripoli's takeover of 51% of the assets of other foreign oil companies. By October, Libya already had concluded barter deals with the USSR, Romania, Bulgaria, Brazil, and several other LDCs. In addition, Libyan representatives had visited state oil companies in France and Italy, seeking to arrange long-term barter agreements.

In view of Libya's cavalier attitude toward contracts, some of these barter deals may prove to be fragile. Libya continues to shop among the developed countries for the goods it wants. It may well renege on some contracts in favor of others for either economic or political reasons.

Except possibly for Romania – which offers advanced oil technology – the East European countries are particularly vulnerable because Libya has a low opinion of their goods. The LDCs that offer little beyond political support also may see their deals unravel, especially if Libya patches up its quarrels with other Arab states. Last month, for example, Libya canceled its oil supply agreements with India and Panama. (SECRET/[redacted])

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FOREIGN MEDIA STRESS COOPERATION WITH ARABS

West European and Japanese press commentary concentrated last week on the need for closer ties with the Arab states to insure adequate oil supplies.

The West European press generally praised the 4 March proposal by the EC Nine to offer long-term economic, technical, and cultural cooperation to the 20 Arab states. It contrasted the unity of this conference with the discord in Washington last month. Paris' **Le Monde** complained that Mr. Kissinger now "parachutes" into Brussels to "torpedo" this latest European initiative. Certain Germans allegedly considered this visit to be particularly embarrassing to Herr Scheel, current president of the EC Council. **Le Monde** concluded by saying that France and West Germany are not too far apart in sharing the view that the EC must at least play a regional role in the Middle East, where its oil suppliers are located.

The West German press editorialized that although the permanent representative of the Atlantic Council had invited Mr. Kissinger to Bonn to learn of his latest talks in the Middle East, the timing of the visit was considered "something less than opportune not only by the French."

Hamburg's **Die Welt** observed that Foreign Minister Scheel had informed Mr. Kissinger on 4 March of the Community's decision to offer long-term assistance to the Arabs; it thus wondered why the State Department criticized the EC for a "go-it-alone" policy and for its intention to start oil talks with the Arabs "without prior consultation with Washington." **Frankfurter Allgemeine Zeitung** reported evidence of a healing of the rift between West Germany and France, which had become so evident at the Washington Energy Conference, as a result of the 4 March discussions in Brussels.

The Arab world welcomed the European initiative at Brussels and termed it the "single most progressive step yet taken to solve the world oil crisis." Baghdad radio praised the results of the dialogue between the Arabs and the EC and observed that "Europe's actions at Brussels will not go unnoticed by OAPEC."

Tokyo's **Yomiuri** challenged the Ministry of International Trade and Industry to deny that Japan, by freezing import prices, is yielding to pressure from the Western oil companies and endangering Japanese oil supplies. The **Nihon Keizai Shimbun** urged Premier Tanaka to give serious consideration to Japan's joining the Arab Development Bank, a move that would entail Japanese participation in financial operations with Egypt, Saudi Arabia, Kuwait, and Abu Dhabi. **Nihon Keizai Shimbun** praised the government's pledge to extend a 30 billion yen loan to help reopen the Suez Canal as a "timely and sagacious move for better relations with friendly oil producers." (UNCLASSIFIED)■

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EUROPE'S DEMAND FOR OIL IN 1974

Before the oil crisis, West European oil consumption in 1974 had been expected to increase by 7%-8% to about 16.5 million b/d. Consumption is not now expected to exceed last year's 15.4 million b/d and it might decline by 2%-3%. Thus West European oil demand should be at least 1.1 million b/d less than anticipated earlier.

Although we expect West European industrial output to stagnate in 1974, the growth anticipated in other economic sectors would normally imply a 3% increase in energy consumption and a rise in oil consumption of about 5%, or about 750,000 b/d. However, because of the impact on energy demand of the sharp rise in oil prices, conservation measures, and a mild winter, total energy consumption is expected to stagnate this year.

A rapid rise in natural gas consumption should also hold down oil needs. Just matching recent growth trends would allow gas to replace about 400,000 b/d of oil. Increased natural gas use will be encouraged by expanded production capabilities in the Netherlands and the North Sea and by an extensive Dutch program to convert from oil to gas.

Maximum use of alternative energy sources will further reduce oil requirements below earlier forecasts. Although coal output probably cannot be increased this year, many of the West European mine closings scheduled for 1974 probably will be delayed, thus allowing output to remain higher

than had been expected. Moreover, by drawing on large stocks, West Germany has boosted coal use in electric power generation -- a sharp reversal from recent trends. As a result of these factors alone, oil requirements could be some 200,000-400,000 b/d less than had been projected.

West European coal consumption probably cannot be increased this year, particularly in view of Britain's recent labor difficulties. But it is likely to decline less than is customary, reducing the usual replacement requirement for oil. (CONFIDENTIAL)

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STATISTICAL SURVEY

Selected World Energy Statistics

World Crude Oil Production

	September 1973 (Pre-Crisis Level)		1973		1st Qtr 1974 (Estimated)	
	Thousand b/d	Percent	Thousand b/d	Percent	Thousand b/d	Percent
Western hemisphere	**16,045**	**27.7**	**16,118**	**29.0**	**16,110**	**28.3**
United States	9,149	15.8	9,189	16.5	9,200	16.2
Venezuela	3,395	5.9	3,364	6.0	3,200	5.6
Canada	1,745	3.0	1,798	3.2	1,900	3.3
Mexico	470	0.8	465	0.8	490	0.9
Ecuador	210	0.4	204	0.4	220	0.4
Other	1,076	1.9	1,098	2.0	1,100	1.9
Eastern hemisphere	**41,808**	**72.3**	**39,492**	**71.0**	**40,780**	**71.7**
Western Europe	395	0.7	370	0.7	450	0.8
Middle East	22,899	39.6	21,158	38.0	21,370	37.6
Saudi Arabia	8,534	14.8	7,607	13.7	8,000	14.1
Iran	5,793	10.0	5,861	10.5	6,100	10.7
Kuwait	3,480	6.0	3,024	5.4	2,850	5.0
Iraq	2,167	3.7	1,964	3.5	1,800	3.2
Abu Dhabi (UAE)	1,381	2.4	1,298	2.3	1,200	2.1
Qatar	608	1.1	570	1.0	520	0.9
Oman	300	0.5	293	0.5	300	0.5
Dubai (UAE)	273	0.5	220	0.4	250	0.4
Other	363	0.6	321	0.6	350	0.6
Africa	6,163	10.7	5,902	10.6	5,990	10.5
Libya	2,286	4.0	2,187	3.9	2,000	3.5
Nigeria	2,102	3.6	2,053	3.7	2,350	4.1
Algeria	1,100	1.9	1,070	1.9	940	1.7
Other	675	1.2	592	1.1	700	1.2
Asia-Pacific	2,303	4.0	2,257	4.1	2,400	4.2
Indonesia	1,350	2.3	1,324	2.4	1,450	2.5
Other	953	1.6	933	1.7	950	1.7
Communist countries	10,048	17.4	9,805	17.6	10,570	18.6
USSR	8,663	15.0	8,420	15.1	9,080	16.0
China	1,000	1.7	1,000	1.8	1,100	1.9
Romania	275	0.5	275	0.5	280	0.5
Other	110	0.2	110	0.2	110	0.2
World total	**57,853**	**100.0**	**55,610**	**100.0**	**56,890**	**100.0**
Of which:						
OPEC members[1]	32,679	56.5	30,746	55.3	30,880	54.3
OAPEC members[2]	20,252	35.0	18,272	32.9	17,709	31.1

1. The members of the Organization of Petroleum Exporting Countries are Algeria, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.

2. The members of the Organization of Arab Petroleum Exporting Countries are Algeria, Bahrain, Egypt, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, Syria, and United Arab Emirates.

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Recent Trends in Arab Oil Production[1]

	1973				1974
	September	October	November	December	January
	Production (Thousand b/d)				
Total	20,129	18,420	15,520	16,020	17,410
Saudi Arabia[2]	8,534	7,810	6,270	6,700	7,700
Kuwait[2]	3,480	3,060	2,470	2,470	2,820
Libya	2,286	2,380	1,770	1,770	2,030
Iraq	2,167	1,700[3]	2,050	2,150	1,700
Abu Dhabi (UAE)	1,381	1,340	1,170	1,170	1,200
Algeria	1,100	1,020	880	860	940
Qatar	608	600	470	460	520
Oman	300	300	300	300	300
Dubai (UAE)	273	210[4]	140[4]	140[4]	200[4]
	Percent Decrease from September 1973				
For all countries	....	8	23	20	14

Estimated shortfalls in production for January 1974 compared with production previously expected.

	Thousand b/d									
	Saudi Arabia[2]	Kuwait[2]	Libya	Iraq	Abu Dhabi	Algeria	Qatar	Oman	Dubai	Total
Pre-cutback planned January production[5]	9,700	3,500	2,300	2,200	1,700	1,100	650	300	300	21,750
Production shortfalls										
Volume	2,000	680	270	500	500	160	130	....	100	4,340
%	21	19	12	23	29	15	20	....	33	20

1. This table illustrates the effect of the OAPEC decisions of 4 November and 25 December on Arab oil production through January 1974. Iraq did not sign the agreement; Oman, which is not a member of OAPEC, is not expected to reduce production.
2. Including approximately one-half of Neutral Zone production.
3. Production reduced as a result of war damage to export facilities.
4. Dubai production reduced by offshore well fire.
5. Company forecasts where available; otherwise, OER estimate.

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Selected Consuming Countries' Dependence on Arab Oil
1972

Thousand b/d and Percent of Imports

		Origin of Imports											
			Arab Oil										
	Total Consumption	Total[1]	Total	Saudi Arabia	Kuwait	Libya	Iraq	Abu Dhabi	Algeria	Other	Iran	Vene-zuela	Others
United States[2]	16,350	4,750	850	300	50	250	....	100	100	50	200	1,700	2,000
%		100.0	17.9	6.3	1.0	5.3	....	2.1	2.1	1.0	4.2	35.8	42.1
Total Western Europe	14,200	14,400	9,902	3,573	1,873	1,889	867	369	684	647	1,648	276	2,574
Percent		100.0	68.8	24.8	13.0	13.1	6.0	2.6	4.8	4.5	11.4	1.9	17.9
Italy	2,005	2,217	1,534	566	303	421	244	....	....	....	353	....	330
%		100.0	69.2	25.5	13.7	19.0	11.0	....	....	....	15.9	....	14.9
France	2,315	2,364	1,836	495	342	196	287	227	219	70	142	36	350
%		100.0	77.7	20.9	14.5	8.3	12.1	9.6	9.3	3.0	6.0	1.5	14.8
United Kingdom	2,195	2,057	1,411	418	399	294	70	90	22	118	264	100	282
%		100.0	68.6	20.3	19.4	14.3	3.4	4.4	1.1	5.7	12.8	4.9	13.7
West Germany	2,885	2,052	1,466	380	87	570	38	....	228	163	196	74	316
%		100.0	71.4	18.5	4.2	27.8	1.9	....	11.1	7.9	9.6	3.6	15.4
Netherlands	787	1,810	1,258	608	372	82	8	....	23	165	308	9	235
%		100.0	69.5	33.6	20.6	4.5	0.4	....	1.3	9.1	17.0	0.5	13.0
Belgium-Luxembourg	624	879	424	268	127	....	29	....	....	....	100	....	355
%		100.0	48.2	30.5	14.4	....	3.3	....	....	....	11.4	....	40.4
Spain	700	775	520	226	66	62	38	....	97	31	48	17	190
%		100.0	67.1	29.2	8.5	8.0	4.9	....	12.5	4.0	6.2	2.2	24.5
Portugal	87	80	67	25	....	....	32	....	....	10	6	....	-
%		100.0	83.7	31.2	....	....	40.0	....	....	12.5	7.5	....	8.8
Other	2,602	2,166	1,386	587	177	264	121	52	95	90	231	40	509
%		100.0	64.0	27.1	8.2	12.2	5.5	2.4	4.4	4.2	10.7	1.8	23.5
Japan	4,800	4,757	2,162	1,067	595	4	30	269	....	197	1,680	8	907
%		100.0	45.4	22.4	12.5	0.1	0.6	5.7	....	4.1	35.3	0.2	19.1
Canada	1,665	730	183	77	3	38	16	39	1	9	98	373	76
%		100.0	25.1	10.6	0.4	5.2	2.2	5.4	0.1	1.2	13.4	51.1	10.4

1. Imports exceed consumption in some countries because they export products; the Netherlands transships some crude oil to other West European countries.
2. US imports are allocated on a direct and indirect basis, i.e., refined products from export refineries are traced to the source of the crude oil.

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Estimated Consumption and Imports, by Major Area[1]

1973

Thousand b/d and Percent of Consumption

			Origin of Imports													
			Arab Countries													
	Total Consumption	Total Imports	Total Arab	Saudi Arabia	Kuwait	Libya	Iraq	Abu Dhabi	Algeria	Other Arab	Iran	Venezuela	Indonesia	Canada	Nigeria	Others
Total	58,000	33,000	17,980	7,490	2,940	2,100	1,630	1,300	1,110	1,410	5,850	2,930	1,200	1,100	1,780	2,160
%	100.0	56.9	31.0	12.9	5.1	3.6	2.8	2.2	1.9	2.4	10.1	5.1	2.1	1.9	3.1	3.7
United States	17,300	6,200	1,590	590	160	350	50	160	140	140	420	1,840	250	1,100	550	450
%	100.0	35.8	9.2	3.4	0.9	2.0	0.3	0.9	0.8	0.8	2.4	10.6	1.4	6.4	3.2	2.6
Western Europe	15,400	15,200	10,730	3,990	1,690	1,590	1,050	600	780	1,030	2,150	270	Negl.	...	1,010	1,040
%	100.0	98.7	69.7	25.9	11.0	10.3	6.8	3.9	5.1	6.7	14.0	1.8	Negl.	....	6.6	6.8
Japan	5,400	5,400	2,390	1,240	540	20	Negl.	430	....	160	1,730	10	840	....	100	330
%	100.0	100.0	44.3	23.0	10.0	0.4	Negl.	8.0	....	3.0	32.0	0.2	15.6	....	1.9	6.1
Canada	1,800	1,000	220	80	Negl.	40	20	60	....	20	180	470	Negl	....	80	50
%	100.0	55.6	12.2	4.4	Negl.	2.2	1.1	3.3	....	1.1	10.0	26.1	Negl.	....	4.4	2.8
Communist Area	9,100	500	400	....	....	100	200	Negl.	50	50	100	....	....	....	....	...
%	100.0	5.5	4.4	....	....	1.1	2.2	Negl.	0.5	0.5	1.1	....	....	....	....	....
Others	9,000	4,700	2,650	1,590	550	Negl.	310	50	140	10	1,270	340	110	....	40	290
%	100.0	52.2	29.4	17.7	6.1	Negl.	3.4	0.6	1.6	0.1	14.1	3.8	1.2	....	0.4	3.2

1. This table allocates imports on a direct and indirect basis – i.e., refined products from export refineries are traced to the source of the crude oil.

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Sources of European Community Energy

Percent of Gross Inland Consumption

	European Community			1972								
	1957	1967	1972	West Germany	France	United Kingdom	Italy	Netherlands	Belgium	Luxembourg	Denmark	Ireland
Domestic	77	48	40	48	26	50	20	84	16	1	....	21
Coal	72	39	23	37	12	36	Negl.	3	15	....	....	19
Natural gas	1	3	11	6	4	11	10	78	Negl.	....	....	....
Electricity	1	4	4	2	9	4	9	Negl.	Negl.	Negl.	....	2
Crude oil	2	2	1	3	1	Negl.	Negl.	3	....	....	....	....
Net imports	23	52	60	52	74	50	80	16	84	100	100	79
Coal	4	2	2	4[1]	6	1	7	2	10	53	8	10
Natural gas	....	Negl.	Negl.	3	3	Negl.	1	32[1]	14	2	....	....
Electricity	....	Negl.	Negl.	1	1[1]	Negl.	....	1[1]	Negl.[1]	13	.2[1]	....
Oil	19	49	58	52	66	48	73	47	60	31	94	69
Of which: Arab	13	35	40	37	51	33	50	33	40	21	60	48

1. Net exports.

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Estimated Oil Imports, by Source[1]
1973

Thousand b/d and Percent of Imports

		Arab Countries													
	Total	Total	Saudi Arabia	Kuwait	Libya	Iraq	Abu Dhabi	Al-geria	Other	Iran	Vene-zuela	Indo-nesia	Canada	Nigeria	Other
United States	6,200	1,590	590	160	350	50	160	140	140	420	1,840	250	1,100	550	450
%	100.0	25.6	9.5	2.6	5.6	0.8	2.6	2.3	2.3	6.8	29.7	4.0	17.7	8.9	7.3
Japan	5,400	2,390	1,240	540	20	Negl.	430	....	160	1,730	10	840	....	100	330
%	100.0	44.3	23.0	10.0	0.4	Negl.	8.0	....	3.0	32.0	0.2	15.6	....	1.9	6.1
Canada	1,000	220	80	Negl.	40	20	60	....	20	180	470	Negl.	....	80	50
%	100.0	22.0	8.0	Negl.	4.0	2.0	6.0	....	2.0	18.0	47.0	Negl.	....	8.0	5.0
Western Europe	15,200	10,734	3,990	1,690	1,593	1,053	597	782	1,029	2,145	268	Negl.	....	1,012	1,041
%	100.0	70.6	26.2	11.1	10.5	6.9	3.9	5.1	6.8	14.1	1.8	Negl.	....	6.7	6.8
United Kingdom	2,330	1,480	550	400	240	40	50	50	150	460	80	Negl.	....	180	130
%	100.0	63.5	23.6	17.2	10.3	1.7	2.1	2.1	6.4	19.7	3.4	Negl.	....	7.7	5.6
West Germany	2,250	1,610	480	90	550	30	110	280	70	270	40	Negl.	....	200	130
%	100.0	71.6	21.3	4.0	24.4	1.3	4.9	12.4	3.1	12.0	1.8	Negl.	....	8.9	5.8
Italy	2,440	1,930	630	200	460	390	....	....	250	330	20	....	....	10	150
%	100.0	79.1	25.8	8.2	18.9	16.0	....	....	10.2	13.5	0.8	....	....	0.4	6.1
France	2,690	2,070	610	310	150	350	290	230	130	220	30	....	....	250	120
%	100.0	77.0	22.7	11.5	5.6	13.0	10.8	8.6	4.8	8.2	1.1	....	....	9.3	4.5
Netherlands[2]	2,090	1,380	690	380	60	10	80	20	140	440	10	....	....	220	40
%	100.0	66.0	33.0	18.2	2.9	0.5	3.8	1.0	6.7	21.1	0.5	....	....	10.5	1.9
Belgium-Luxembourg	720	550	290	120	30	30	10	50	20	100	20	....	....	30	20
%	100.0	76.4	40.3	16.7	4.2	4.2	1.4	6.9	2.8	13.9	2.8	....	....	4.2	2.8
Spain	1,000	820	470	90	40	50	....	110	60	120	40	....	....	10	10
%	100.0	82.0	47.0	9.0	4.0	5.0	....	11.0	6.0	12.0	4.0	....	....	1.0	1.0
Norway	140	64	20	....	3	3	7	2	29	55	8	....	....	12	1
%	100.0	45.7	14.3	....	2.1	2.1	5.0	1.4	20.7	39.3	5.7	....	....	8.6	0.7
Other	1,540	830	250	100	60	150	50	40	180	150	20	....	....	100	440
%	100.0	53.9	16.2	6.5	3.9	9.7	3.2	2.6	11.7	9.7	1.3	....	....	6.5	28.6

1. This table allocates imports on a direct and indirect basis – i.e., refined products from export refineries are traced to the source of the crude oil.
2. Excluding oil transshipped to other West European countries.

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Recent Bilateral Oil Proposals

Consumer	Producer	Details
Japan	Iran	Agreement in principle to provide a $1 billion loan for a 500,000 b/d refinery in Iran in return for bulk of output. Refinery project, however, may hinge on outcome of negotiations for a petrochemical plant including an additional $1 billion in credits.
	Iraq	Agreement initialled providing $1 billion loan for an Iraqi refinery, LPG plant, petrochemical plant, and other industrial projects in return for 180,000-200,000 b/d of crude and products for 10 years, natural gas, and other products.
	Saudi Arabia	Economic cooperation agreement to be signed in mid-February. In return, Japan hopes to line up long-term oil supply.
	Algeria	Japan negotiating credits for industrial projects in return for direct deal crude and LNG.
	Kuwait	Kuwait says it is ready to negotiate sale of oil as soon as a new participation agreement with Gulf/BP is signed.
West Germany	Iran	The West German government, negotiating on behalf of a German oil consortium, has agreed in principle to construct a 500,000 b/d refinery in Iran, reportedly at a cost of $1.2 billion, in return for the output. The project may hinge, however, on outcome of negotiations for a $1 billion petrochemical complex.

Recent Bilateral Oil Proposals
(continued)

Consumer	Producer	Details
	Iran	Negotiations in progress for delivery of 10 billion cubic meters of natural gas annually for unspecified period. The deal involves Iranian deliveries to the USSR in exchange for Soviet deliveries to Germany.
	Iran	Twenty-two industrial projects to be negotiated in exchange for oil.
United Kingdom	Iran	Confirmed deal. The United Kingdom is to get 100,000 b/d of crude in the coming year in return for textile fibers, steel, paper, petrochemicals, and other industrial products.
	Saudi Arabia	Negotiations suspended for 200,000 b/d for an unspecified period. Payment was to be through commitments for development contracts.
	Kuwait	Kuwait says it is ready to negotiate sale of oil as soon as a new participation agreement with Gulf/BP is signed.
France	Saudi Arabia	Agreement signed for about 200,000 b/d of oil for 3 years. France is to build a 50,000 b/d refinery with Saudi ownership.
	Abu Dhabi	The French government is to supply 35 Mirage aircraft for crude oil to cover the value of the transactions. The agreement reportedly has been concluded.

Recent Bilateral Oil Proposals
(continued)

Consumer	Producer	Details
	Abu Dhabi	The French, wishing to buy participation crude, have offered to build petrochemical plant in return.
	Kuwait	France offered arms and large industrial investment in exchange for long-term oil deliveries. The size of the deal is subject to future negotiations and Kuwait approval in principle.
	Iran	Agreement in principle signed for $5 billion in industrial projects. In return, France is to get natural gas and oil exploration rights.
	Libya	Agreement in principle signed to exchange oil for industrial equipment, including nuclear powerplants, and technical assistance.

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Oil Company Control of Oil Production in OPEC Countries
January 1974

The attached table lists 13 foreign oil companies or foreign operating groups that control about three-fourths of the crude oil production in the OPEC countries. This list includes all the companies that produce more than 150,000 b/d. The state oil companies in Iraq, Algeria, and Libya control more than 50% of the oil not controlled by these companies. The remainder is controlled by several producer-state companies and small foreign companies. The following tabulation is a summary of the table:

	Thousand b/d	
Company	Maximum[1]	Minimum[2]
Total	**25,865**	**19,587**
International "Majors" subtotal	23,079	17,574
British Petroleum	4,800	3,645
Exxon	4,560	3,800
Texaco	3,357	2,489
Standard Oil (California)	3,142	2,275
Royal Dutch/Shell	2,985	2,430
Gulf	2,590	1,660
Mobil	1,645	1,275
Occidental	310	150
Continental	295	160
Marathon	235	115
French	1,261	1,013
Italian	215	140
Japanese	470	435
Total OPEC production	**30,530**	

1. The maximum column shows the amount of oil physically produced by the selected international oil companies (those with production of 150,000 b/d or more). It does not take into account government ownership through participation, nationalization, or sales of royalty oil. It is certain the companies will not have this amount of oil to sell.
2. The minimum column shows the amount of oil the companies control through equity ownership. This amount could be reduced further by producing government's exercising their option to take royalties in kind (in most cases, 12-1/2% of company equity oil) rather than in cash. This column is almost certain to be too low because we expect the governments to continue to sell a large share of state-owned oil back to the companies. (UNCLASSIFIED)

Estimated Oil Company Control of Oil Production
in OPEC Countries, January 1974

Thousand b/d

Company/Country	Maximum	Minimum
Total	**25,865**	**19,587**
International "Majors"	23,079	17,574
Abu Dhabi (UAE)	685	515
Ecuador	220	220
Indonesia	1,080	430
Iran	4,815	4,815
Iraq	290	290
Kuwait	2,560	1,030
Libya	470	230
Nigeria	2,124	1,344
Qatar	440	175
Saudi Arabia	7,500	5,630
Venezuela	2,895	2,895
British Petroleum	4,800	3,645
Abu Dhabi (UAE)	350	260
Iran	2,160	2,160
Iraq	200	200
Kuwait	1,280	515
Nigeria	750	485
Qatar	60	25
Exxon	4,560	3,800
Abu Dhabi (UAE)	85	65
Indonesia	35	15
Iran	380	380
Libya	275	135
Qatar	30	10
Saudi Arabia	2,250	1,690
Venezuela	1,505	1,505
Texaco	3,357	2,489
Ecuador	110	110
Indonesia	505	200
Iran	380	380
Nigeria	7	4
Saudi Arabia	2,250	1,690
Venezuela	105	105
Standard Oil (California)	3,142	2,275
Indonesia	505	200
Iran	380	380
Nigeria	7	5
Saudi Arabia	2,250	1,690
Royal Dutch/Shell	2,985	2,430
Abu Dhabi (UAE)	165	125
Iran	755	755
Iraq	90	90
Libya	115	55

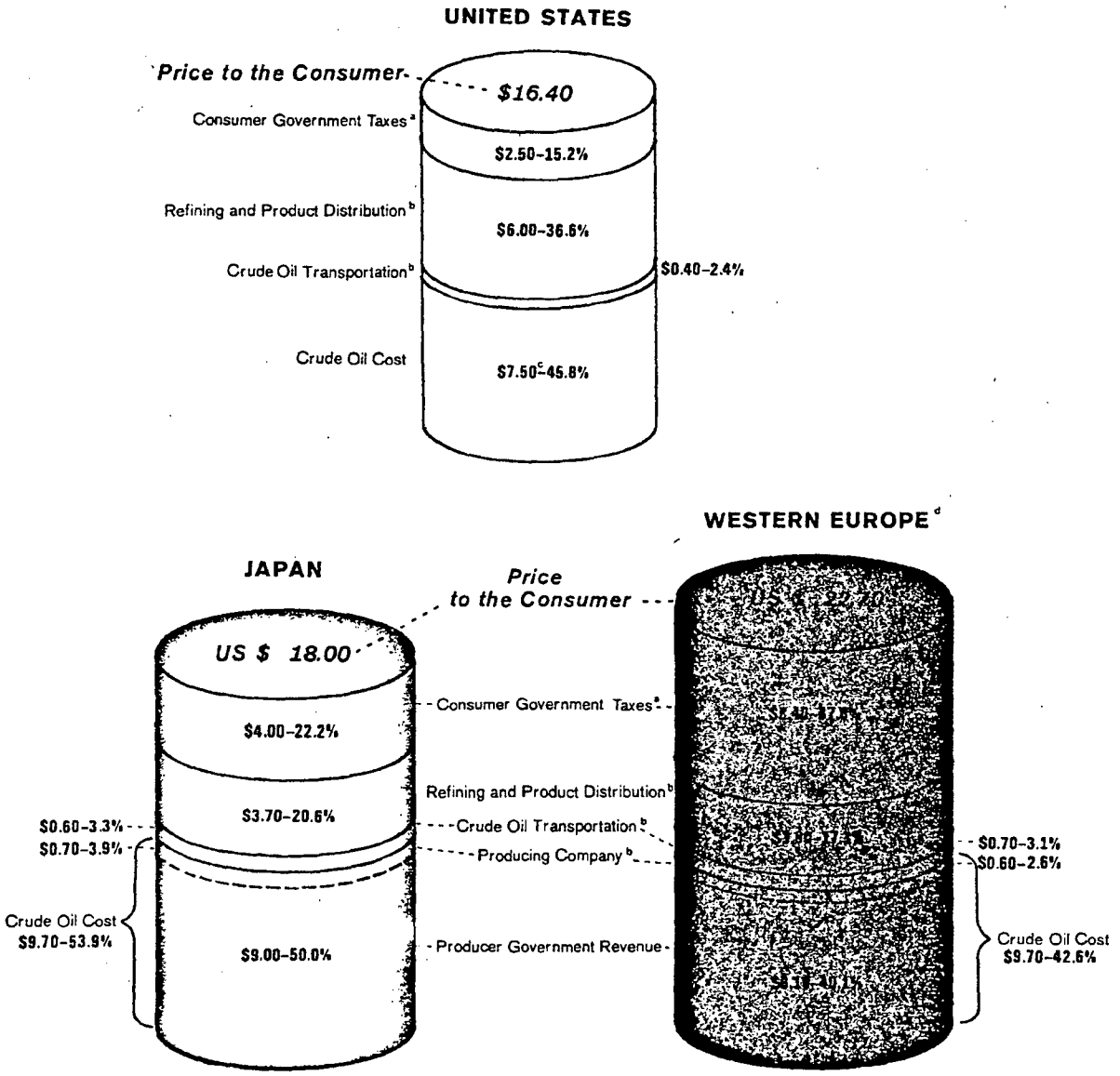
Estimated Oil Company Control of Oil Production
in OPEC Countries, January 1974
(Continued)

Thousand b/d

Company/Country	Maximum	Minimum
Nigeria	750	485
Qatar	320	130
Venezuela	790	790
Gulf	2,590	1,660
Ecuador	110	110
Iran	380	380
Kuwait	1,280	515
Nigeria	405	240
Venezuela	415	415
Mobil	1,645	1,275
Abu Dhabi (UAE)	85	65
Indonesia	35	15
Iran	380	380
Libya	80	40
Nigeria	205	125
Qatar	30	10
Saudi Arabia	750	560
Venezuela	80	80
Occidental		
Libya	310	150
Continental	295	160
Dubai (UAE)	60	45
Libya	235	115
Marathon		
Libya	235	115
French (CFP, ERAP, Aquataine)	1,261	1,013
Abu Dhabi (UAE)	335	150
Algeria	215	215
Dubai (UAE)	50	50
Iran	325	325
Iraq	200	200
Libya	6	3
Nigeria	70	45
Qatar	60	25
Italian (ENI)	215	140
Iran	55	55
Libya	125	60
Nigeria	35	25
Japanese	470	435
Abu Dhabi (UAE)	150	115
Kuwait	160	160
Saudi Arabia	160	160
Total OPEC production		**30,530**

(CONTINUED)

Components of a Representative Barrel of Oil, February 1974



a Including excise taxes, sales taxes, and import duties, but excluding corporate taxes.

b Including profits.

c Weighted average of domestic and imported crude oil prices.

d Based on French data, but fairly representative of other European countries.

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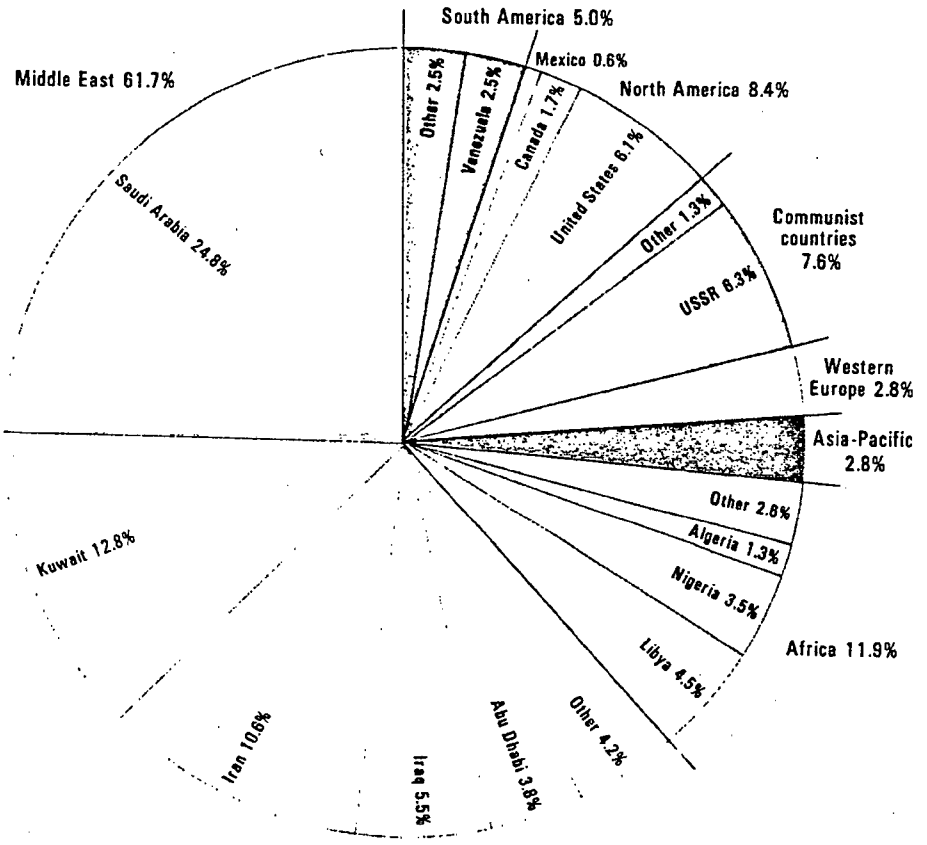
World Proved Oil Reserves

Year-end 1973



Total 567.8 billion barrels

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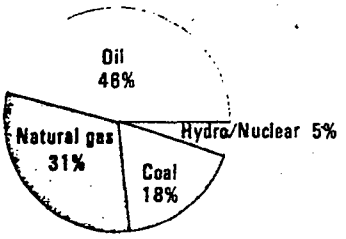
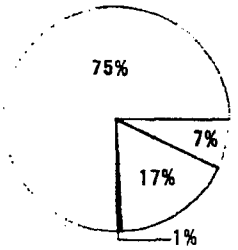
Primary Energy Consumption 1973 Estimate

Million b/d oil equivalent

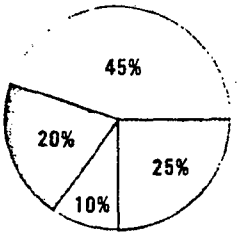
United States 37.1



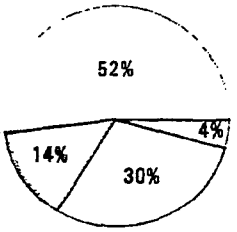
Japan 6.5



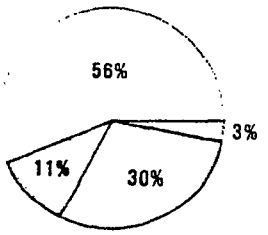
Canada 3.7



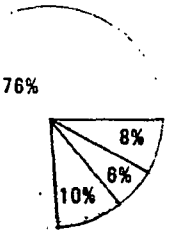
United Kingdom 4.5



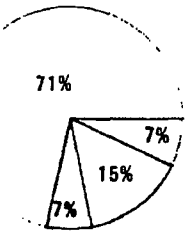
West Germany 5.2



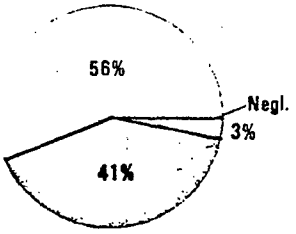
Italy 2.6



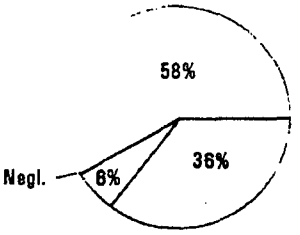
France 3.5



Netherlands 1.4



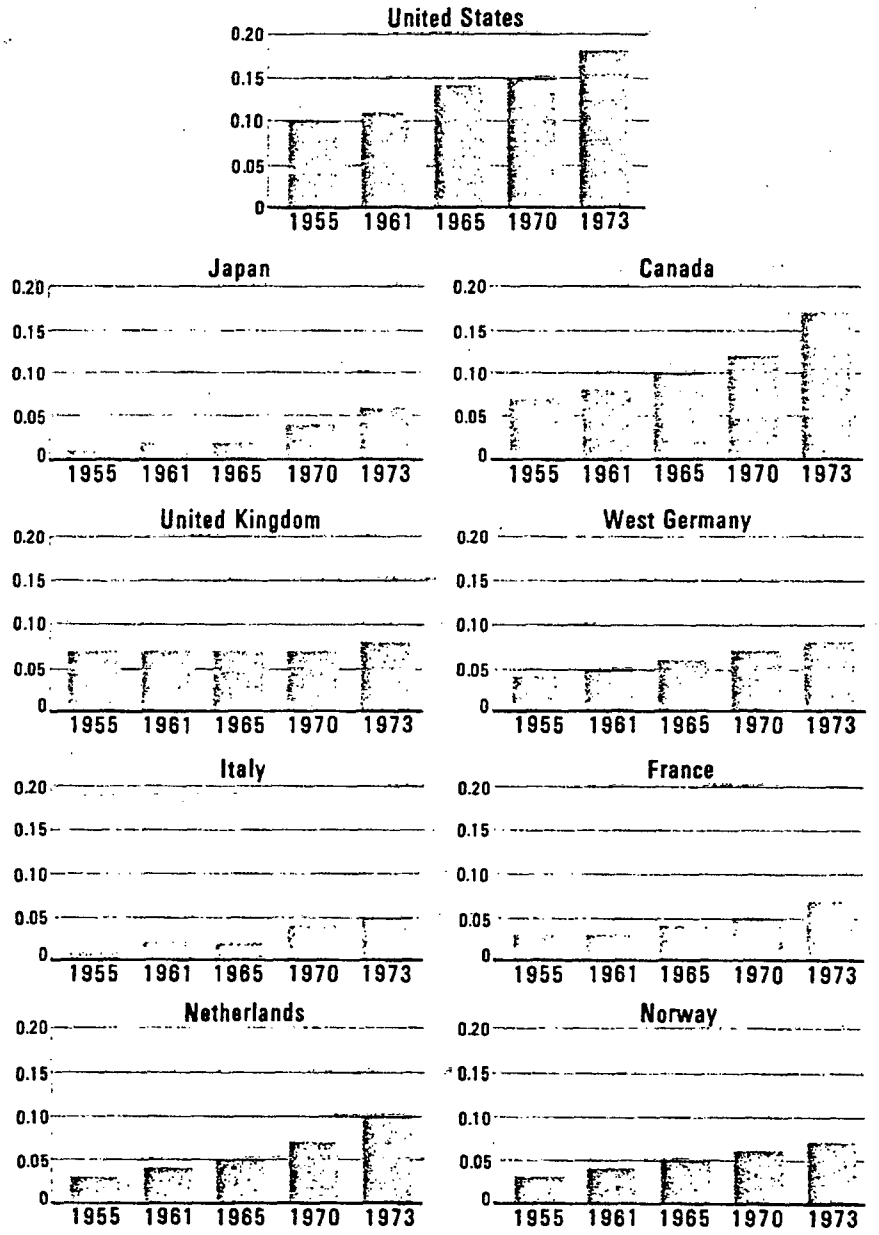
Norway 0.3



562570 1-74

Primary Energy Consumption Per Capita

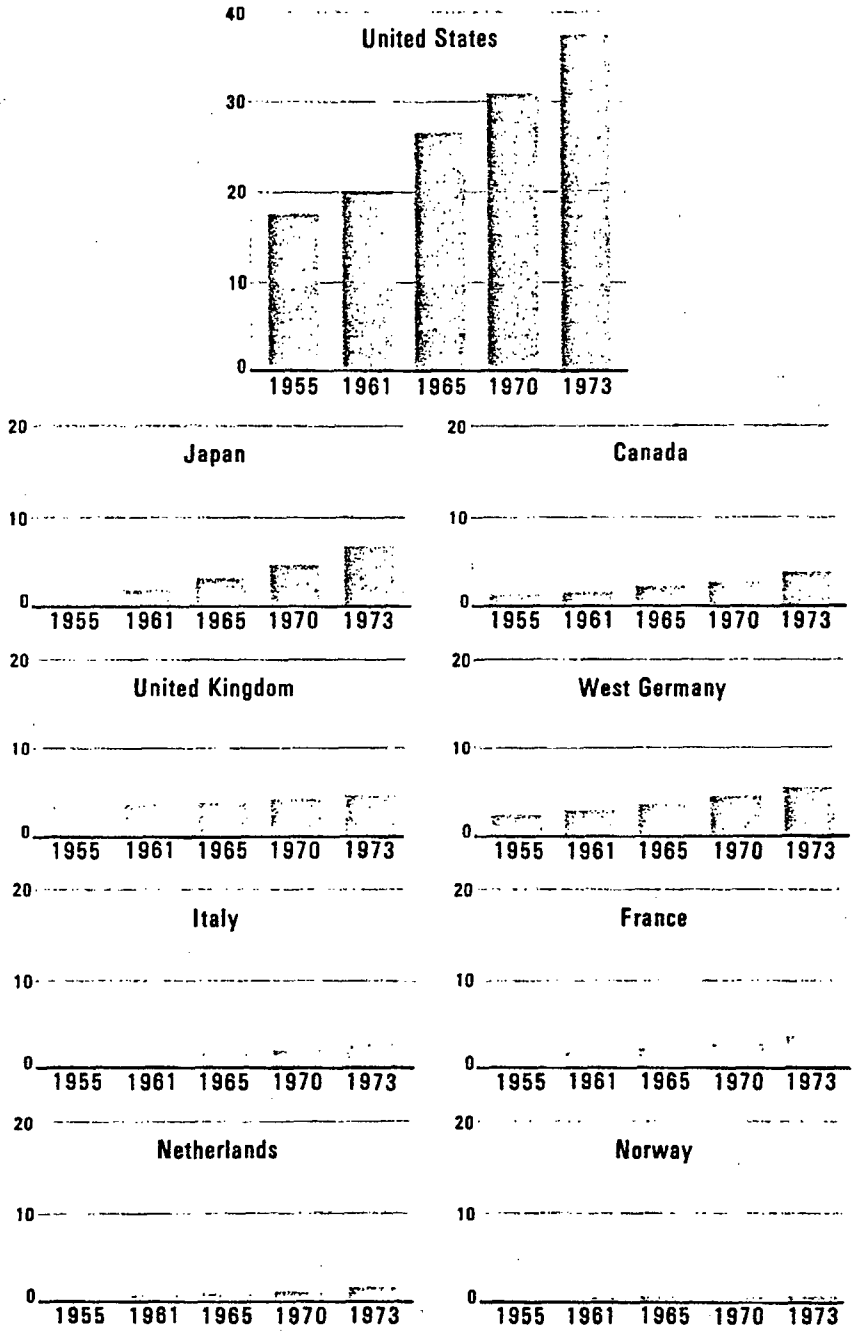
Total energy in b/d oil equivalent



562565 1-74

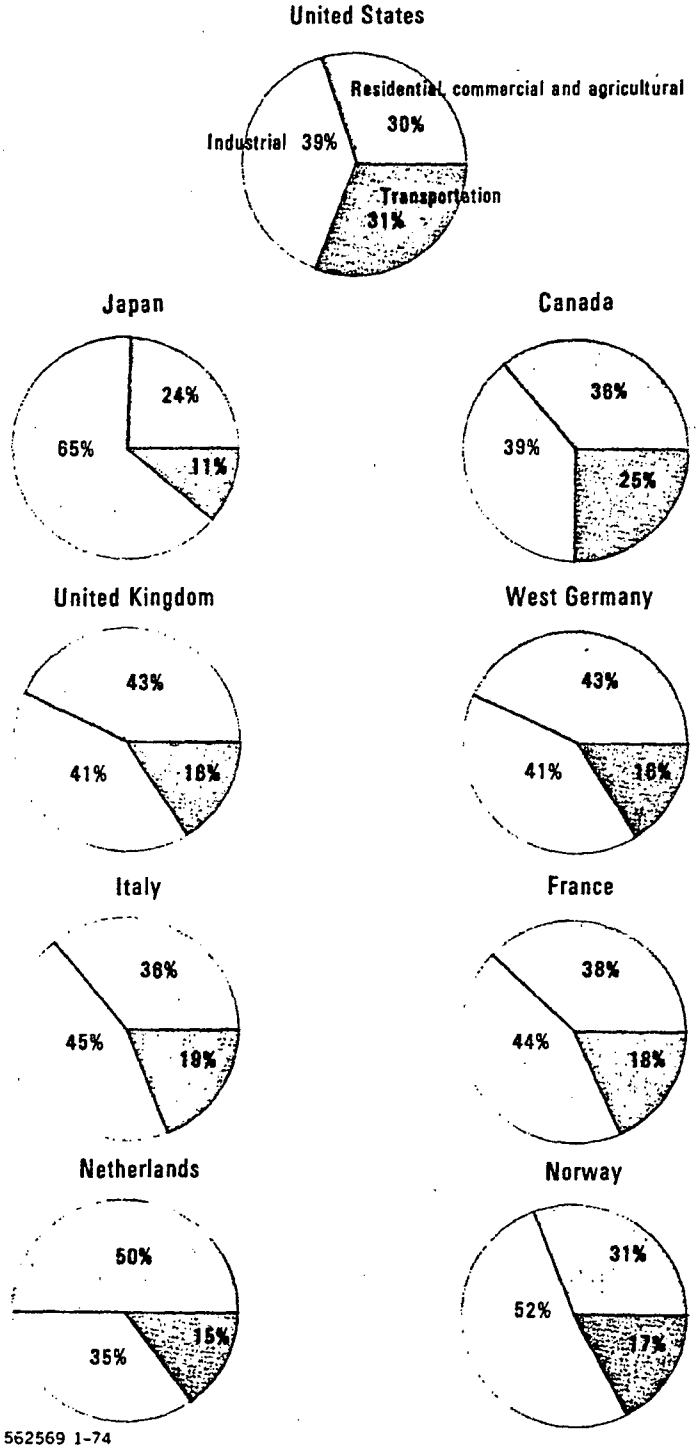
Primary Energy Consumption

Total energy in million b/d oil equivalent



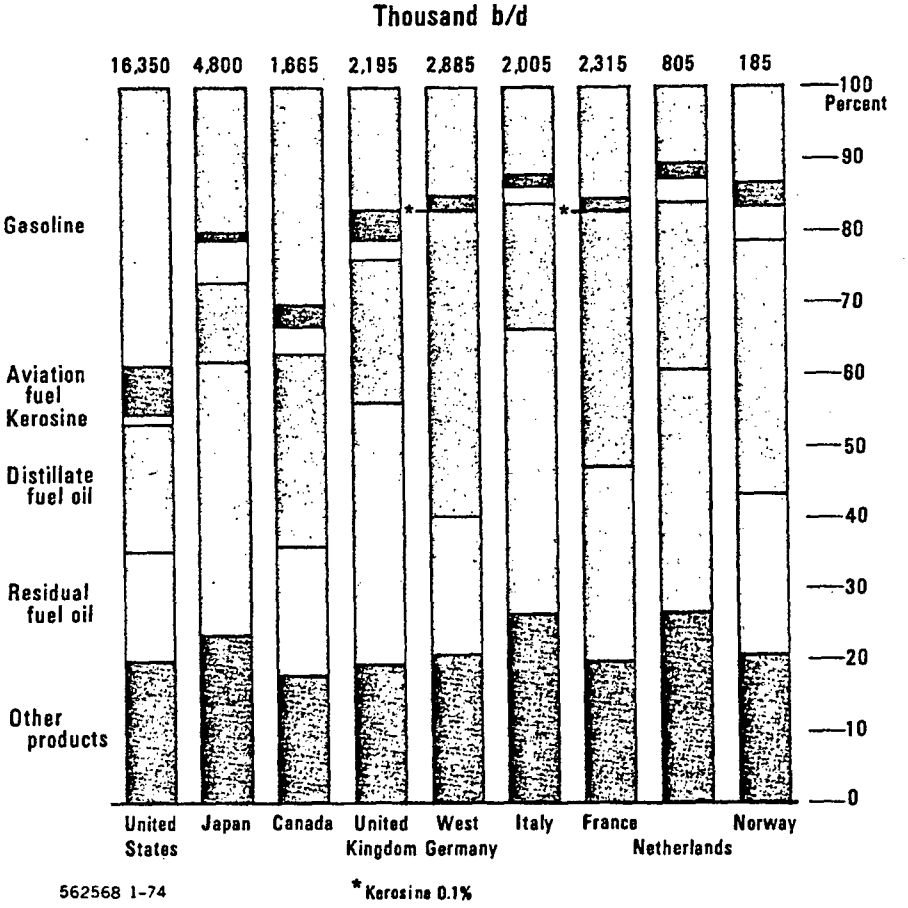
562567 1-74

Distribution of Energy Consumption by Sector, 1972

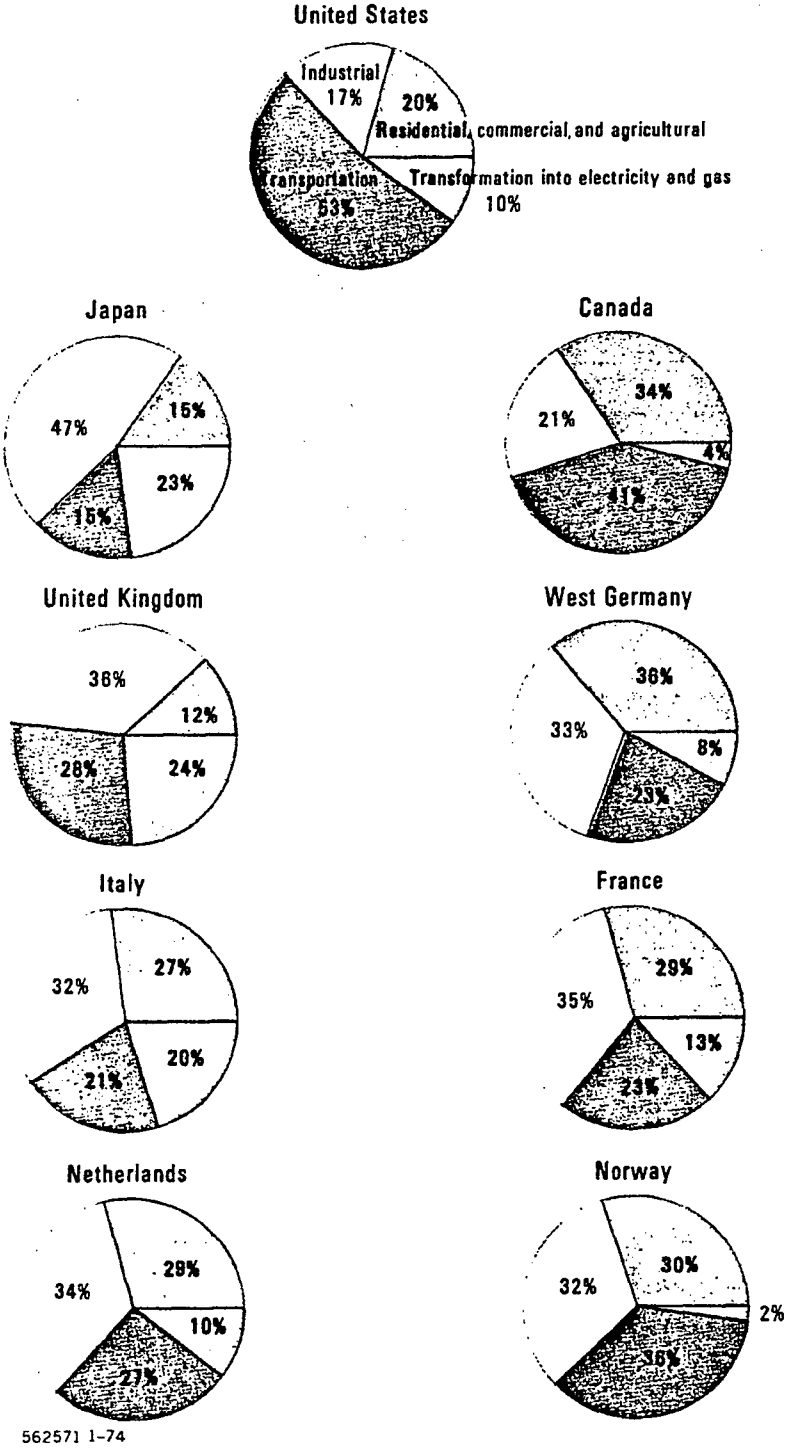


562569 1-74

Petroleum Product Consumption, 1972



Distribution of Oil Consumption by Sector, 1972



562571 1-74

Percent of Consumption Imported, by Source
1972

	United States	Japan	Canada	United Kingdom	West Germany	Italy	France	Nether-lands	Norway
Net imports									
Total energy	12	86	22[1]	50	52	80	74	16	50
Oil	29	100	14[1]	100	95	99	98	94	81
Natural gas	4	26	80[1]	3	37	9	46	71[1]	....
Coal	15[1]	67	23	3	10[1]	97	32	35	50
Hydro/nuclear	....	....	1[1]	1	36	Negl.	10[1]	Negl.[1]	3[1]

1. Net exports.

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World Crude Oil Refining Capacity
Year-end 1973

	Thousand b/d	Percent of Total
Total	**61,454.0**	**100.0**
Eastern hemisphere	**39,017.2**	**63.5**
Middle East	2,882.2	4.7
Iran	660.0	1.1
Kuwait	646.0	1.1
Saudi Arabia	428.3	0.7
Turkey	305.5	0.5
Bahrain	250.0	0.4
Other	592.4	0.9
Africa	1,092.2	1.8
South Africa	331.0	0.5
Egypt	180.0	0.3
Other	581.2	1.0
Asia-Pacific	8,932.7	14.5
Japan	4,939.8	8.0
Singapore	699.6	1.1
Australia	680.9	1.1
India	499.1	0.8
Indonesia	427.7	0.7
South Korea	420.0	0.7
Other	1,265.6	2.1
Western Europe	18,110.1	29.5
Italy	3,882.0	6.3
France	3,140.0	5.1
West Germany	2,825.7	4.6
United Kingdom	2,762.1	4.5
Netherlands	1,825.5	3.0
Spain	1,163.0	1.9
Belgium	816.7	1.3
Greece	313.6	0.5
Sweden	248.0	0.4
Denmark	226.5	0.4
Austria	220.0	0.4
Finland	196.0	0.3
Norway	168.0	0.3
Switzerland	140.0	0.2
Portugal	110.0	0.2
Ireland	58.0	0.1
Cyprus	15.0	Negl.
Communist countries	8,000.0	13.0
USSR	6,500.0	10.6
Eastern Europe	1,500.0	2.4
Western hemisphere	**22,436.8**	**36.5**
North America	15,796.1	25.7
United States	13,383.0	21.8
Canada	1,788.1	2.9
Mexico	625.0	1.0
South America	6,640.7	10.8
Venezuela	1,531.6	2.5
Netherlands Antilles	945.0	1.5
Brazil	791.8	1.3
Argentina	623.6	1.0
Virgin Islands	590.0	1.0
Bahamas	500.0	0.8
Trinidad and Tobago	461.0	0.8
Other	1,197.7	1.9

Ownership of World Oil Refining Capacity [1]

1 January 1974

Thousand b/d

Company	Capacity
Total	**39,870**
International "Majors"	19,060
Exxon	5,300
Royal Dutch/Shell	4,860
British Petroleum	2,740
Texaco	1,910
Mobil	1,560
Standard Oil (California)	1,450
Gulf	1,240
Independents	13,310
Japanese (30 companies)	4,030
Italian (15 companies)	2,090
CFP (35% French government owned)	1,065
Spanish (6 companies)	670
Israeli	210
Amerada-Hess (US)	590
Petrofina (Belgian)	425
New England Petroleum (US)	325
Getty (US)	250
Gelsenberg (West German)	215
Commonwealth (US)	185
Wintershall (West German)	175
Marathon (US)	150
Ultmar (US)	140
Aminoil (US)	130
Sun (US)	125
Union Rhein (West German)	125
Occidental (US)	105
Continental (US)	100
Niarchos (Greek)	100
Shaheen (US)	100
Other	2,005
Government	7,500
OPEC producers	1,790
Iran	675
Indonesia	430
Kuwait	265
Saudi Arabia	120
Algeria	115
Iraq	115
Other	70

Ownership of World Oil Refining Capacity [1]
1 January 1974
(Continued)

	Thousand b/d
Non-OPEC governments	5,710
Brazil	745
France	730
Mexico	625
Italy	535
Argentina	380
West Germany	275
Spain	240
Austria	220
India	215
Taiwan	200
Egypt	180
Finland	175
Chile	135
Turkey	130
Colombia	110
Peru	105
Greece	100
Other	610

1. Excluding data for the United States (50 states) and Communist countries.

(UNCLASSIFIED)